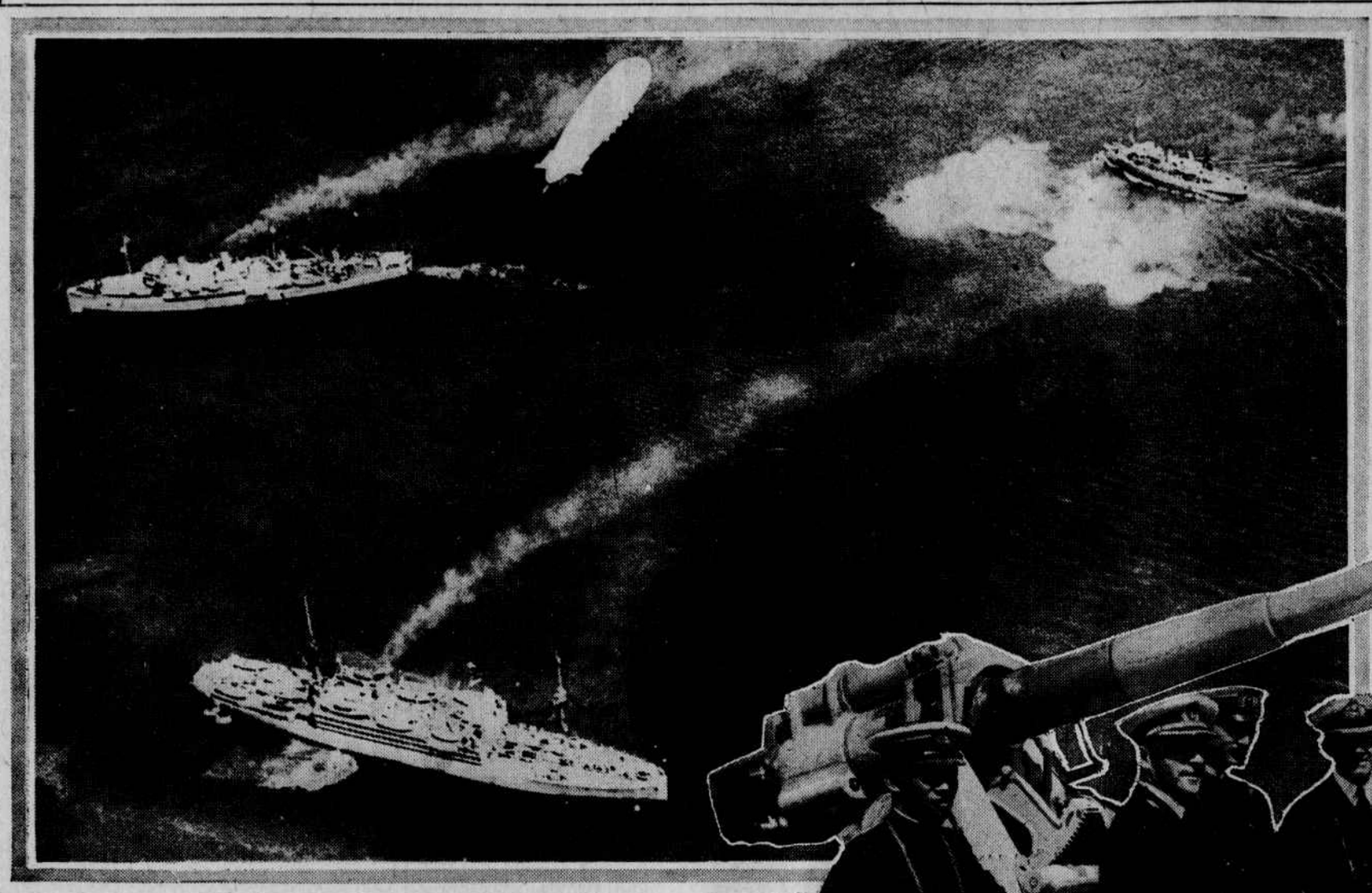
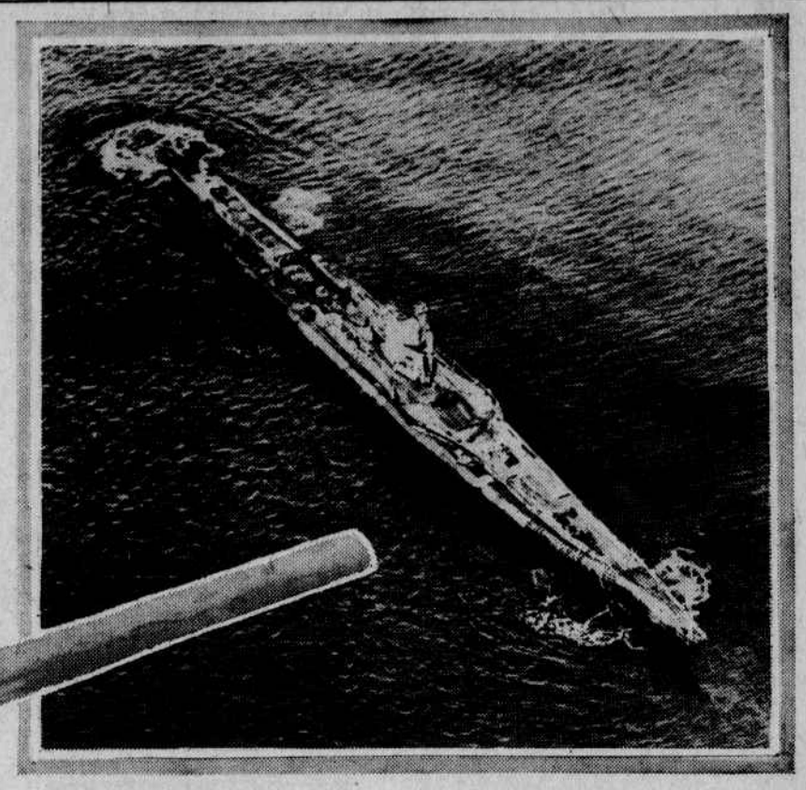
ARMY PLANES CARRY SIXTY TONS OF TNT AT ONCE

Views from an official observation plane of the bombing tests off the Virginia Capes, showing the navy dirigible YD-4 and the United States ships Chaumont and Henderson, and (at right) the surrendered German U-117 just before she was sunk by aerial bombs. Forty-seven planes carrying 188 bombs, each bomb weighing 163 pounds, went out to the attack. Lower picture shows U-117 under bombardment.





New and More Formidable Tactics Develop With Use of Live Bombs at Langley Field--- Latest Missile Weighs 2,000 Pounds

By DONALD MACGREGOR.

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LANGLEY FIELD, Va., July 2.

FIFTY tons of TNT—deadliest explosive known to science even after all the astounding developments of modern warfare—is the carrying capacity of the army aircraft concentrated to-night at Langley Field, constituting the greatest array of aerial fighting forces ever brought together on the American continent.

Every one of 103 airplanes, of all types and sizes, is equipped with a bomb carrying rack to which may be attached engines of death weighing from twenty-five to 1,650 pounds. Within another week bombs weighing 2,000 pounds—one ton of destruction—will be on hand, ready for attachment to the more powerful of the fighting airplanes.

This great flying force, made up of airplanes brought from the army aviation fields in all sections of the country, goes out every day with its cargo of bombs just to get a look at the magnificent American fleet at anchor, off beyond the Virginia Capes, and to rehearse tactics it would follow if that fleet were flying an enemy flag instead of the Stars and Stripes.

Air Forces Confident They Could Sink Every Warship Afloat

The fleet is less than 100 miles away and it is visible on clear days at altitudes of 6,000 feet and upward. Soaring at such an elevation the pilots of the airplanes and the observers are able to see the tiny outlines of the battleships against the mist and smoke as they silently rise and fall with the ocean's roll.

This force of airplanes now concentrated at Langley Field is confident, after weeks of manœuvres under supposed battle conditions, of its ability to sink all the fighting ships afloat—including those of Great Britain, the number of whose combat vessels approaches the 800 mark and whose fleet is still in building. It might take a day—all day, in fact—to sink the British fleet, but it could be done, the fliers assert, if the proper tactics were employed and the superiority of the air remained, through numbers, in the hands of the United States.

I have just passed a day at Langley Field observing the work of this fighting organization, which on the whole is known as a bombardment wing, corresponding with a regiment of infantry. It is made up, in a general way of four squadrons of combat airplanes and one squadron of surveillance airplanes, making five in all, each squadron composed theoretically, although not in fact, of twenty-five airplanes, divided into flights of five airplanes each.

These airplanes on the line in front of the hangars are enough to make one's blood run cold with a realization of their destructive possibilities. The bombs they carry are enough to blow any ordinary city off the face of the earth, although two trips of the sort would in all likelihood be required for the destruction of a large city like New York or Chicago.

There are in all eighteen airplanes of the single-seater type, known as the SE-5 airplanes; fifty of the DH-4 type, capable of carrying two men, a pilot and an observer, and thirty-five of various types of heavy bombing machines, chiefly Martin bombers, but including also several Handley-Page and Caproni airplanes, with crews ranging from five to seven. There are at the field three Caproni machines and two Handley-Pages, the remainder of the heavy bombers being of the Martin type.

Within a week or two more the number of airplanes will be increased from 103 to 110, the seven additional machines to be of the heavy bombing type, which of course will add to the bomb carrying ability of the organization. At a maximum, then, it is safe to say that the fleet of airplanes will be able to carry about sixty tons of TNT, exclusive of course of the cases in which the explosive is held, which constitute approximately 35 per cent. of the total weight.

In addition to the airplanes assigned to offensive combat is the surveillance squadron, composed for the present of nine flying boats, seven of which are of the F-5-L type, which is the standard for the navy, and two of which are of an improved type, known as the H-5-2-L. These seaplanes have been obtained by the army air service to operate for the present as rescue agencies, picking up the land airplanes which are forced down when flying over the water at great distances from shore. When a flier goes down one of the seaplanes hastens to aid, picking up the pilot and salvaging the airplane if it is possible.

The weeks of experiments that have been conducted in an effort to determine the most effective means of bombing attack have developed a definite scheme, which, in the opinion of the higher officers of the service, would give splendid results. It provides, first, for an attack by pursuit airplanes of the single-seater type for the purpose of clearing the air if possible of enemy aircraft.

Definite Scheme of Attack Developed in Recent Experiments

The whole scheme of attack hinges on the success of the pursuit airplanes, which, being light and quick of manœuvre, have every advantage over the heavy bombing airplanes that carry the bulk of the deadly explosive. In this regard the bombardment wing now in operation at Langley Field is not an ideal one, but is the best the army is able to afford at this time because of a shortage of this type of airplane.

The pursuit squadron now consists of eighteen single-seater airplanes, each of them equipped to carry four bombs each, weighing twenty-five pounds. They go ahead of all the other airplanes in an attack, dipping low over a battleship or other target and hurling their bombs where they would be most effective. Then, theoretically, when the air is clear of enemy aircraft the secondary airplanes, carrying heavier bombs, appear. They are of the DH-4 type, with bombs of 150 or 300 pounds—600 pounds of bombs in all, the size of each of the bombs depending largely on the exact character of the attack.

The very heavy bombs—those weighing up to 1,650 pounds, and soon, it is expected, a ton—are carried by the larger airplanes, such as the Martin bombers, the Capronis and the Handley-Pages. They are in reality merely great flying ships, steady, determined, slow moving in comparison, but solid affairs, their courses flown with the greatest precision and their bombing much the same. These are the airplanes which have made such scores as 100 per cent. in their bombing, with their normal percentage in recent weeks about 90, as compared with 73 two months ago.

U. S. NAVY OFFICIAL PHOTOS.

Foreign naval and military attaches viewing the bombing tests from the U. S. S. Henderson. Left to right: Lieut. Chu Fong Lin, Chinese naval attache; Commander G. E. Ferrer, Spanish naval attache; Lieut. Marcos A. Zar, Argentine naval attache; Capt. S. R. Bailey, British naval attache, and Col. V. di Bernezzo, Italian military attache.

Practice has improved the aim of the bombardiers of the heavy airplanes.

The general character of the practice at Langley Field has changed in recent weeks. Instead of dummy bombs being dropped, as in the early days of the tests, the fliers now are using live ammunition almost exclusively, taking their loads daily from a large ammunition dump that extends all along the Back River boundary of the post.

The bombs are piled high in this section of the military reservation. They are in boxes, as sent down from the ordnance proving grounds at Aberdeen, stacked criss-cross in the open, an innocent enough looking stack, but containing enough explosive to blow up the entire State of Virginia if let loose at one time. Ordnance officers are on hand in charge of the bombs, and the assurance has come from them that there is no danger so long as there is no tampering with the special safety appliances attached to each bomb.

With each bomb is a sort of tail which is affixed when the airplane takes on its load of explosive. The tail is devised to guide the bomb in its downward course to prevent its being carried out of line by the wind.

Every morning of the week except Sunday bombs are taken from the dump and carted over to the airplane line in front of the hangars, ready for the day's manœuvres. The mechanicians are to be found tuning up the airplanes, while the pilots and observers, with their radio operators and other assistants, are adjusting their headgear and getting into heavy clothes which will protect them from the cold air currents of the higher altitudes.

One by one, but rapidly, the different flights—five to the flight—get off the field and assemble in the air. As the squadrons are organized they hit off on a course in the sky to get out of the way for the medium sized bombers and the heavy bombers who follow the same procedure.

The sight of 100 or more airplanes in the sky at one time—the number, due to the condition of the aircraft, is never exactly the same—is enough to make anybody stop and wonder whether, after all, there is not something more than mere talk in the argument that aircraft may be superior to all other means of combat in the future and that the wars that probably are to come will be fought in the air, with airplanes dropping bombs, spreading poison gas, strewing bombs and belching forth torpedoes.

These airplanes, in battle formation, are travelling at from ninety to 100 miles an hour, although the smaller pursuit ships, because of their speed, which runs up in instances to 175 miles an hour, are able to do much more circling and recircling than those of the heavier types. They manœuvre like infantry—their precision, after weeks of practice, is remarkable. They are intent on finding the target and disposing of their deadly bombs.

Up to this time the bombardment wing has not carried its full capacity of TNT, fifty tons, so that its real effect is not known even to the most enthusiastic of the Army air service officers, who are confident that the group now on the field would be able, if necessity arose, to sink all the battle fleets afloat. The nearest approach to the carrying of such a great amount came only recently, when the airplanes started off with something like thirty tons, but had to abandon the sham battle because two of the fliers participating in the sham battle crashed their airplanes together in the air and fell to their death in Chesapeake Bay.

The scene was in the vicinity of the wreck of the old cruiser San Marcos, formerly the Texas, which for a long time has been a target for navy gunfire. Such bombs as did fall, however, have almost entirely disposed of the remains of the one-time fighting ship.

The bombing practice at Langley Field has progressed to such an extent that Brig.-Gen. William Mitchell, Assistant Chief of the Army Air Service, has come from Washington to take the leadership of the organization. Gen. Mitchell, it will be recalled, started the now intense discussion on the subject of aircraft supremacy over the battleship, and he is out to prove to the country that he was right. He is flying every day himself with the bombing outfit, an inspiration at times to the personnel at the field, whose nerve seems to be unshaken from the fact that twenty-two of their number, either directly or indirectly, have met death within the last two months in the conduct of the experiments.

Gen. Mitchell is not asking the United States to embark on a policy of national defence that provides only for aircraft. What he is seeking is a consolidation of the air forces that now are scattered in the Army, the Navy, the Marine Corps, the Post Office Department and elsewhere. He would like to see a separate air force, with a common overhead so far as administration and engineering is concerned, with details of Army personnel to operate airplanes in the Army service, details of Navy personnel to operate airplanes in the Navy, regular postal fliers and so on, as conditions seemed to warrant. This, he maintains, could be accomplished without one cent of additional cast—that is, if the present scattered appropriations, which totalled $121,000,000 last year for all the services, were to go to one central organization, America could have an air force second to none in the world.

It is the opinion of Gen. Mitchell and those who side with him that the airplane presents the most sensible means of national defence at this time. This argument is based upon the cost of the battleship, at present approximately $40,000,000, and the possibility that it could be sunk, or at least put out of commission, by a single bomb. For the price of one battleship, General Mitchell asserts, not less than 1,500 airplanes could be built—airplanes, that is, of a type capable of carrying a bomb weighing a ton. The latest contracts for Martin bombers called for an outlay of $23,000 for each.

In the opinion of the airplane enthusiasts the end is not yet in sight for battleship construction. Attention is invited to the reports that have come lately from Great Britain that the British are preparing to build great superdreadnoughts of not less than 55,000 tons and carrying twenty inch guns. The largest dreadnought now building in the United States is only four-fifths this size, that is of 44,000 tons and carrying sixteen inch guns.

"America is foolish to put money into dreadnoughts that are licked before they are launched," one of the high air service officers insists. "It is either up to us to build battleships as large as those of any other nation or to find some other means of combating them. I honestly believe that the airplane offers the solution, and answers all the arguments, both for efficiency and for cost."

The ideal air programme for the United States, in the opinion of those who have been making a close study of the situation, should be for the maintenance of an aerial fleet of 3,800 airplanes. These should be, it is figured, divided into 2,400 airplanes for the offensive, while at least 1,200 should be of various types for the particular problems of the interior, the Territories and various strategical points, such as the Panama Canal Zone.

Of the 2,400 airplanes for offensive service about 60 per cent. should be of the single-seater pursuit type, with high speed and much ability to manœuvre. These are the airplanes, the authorities believe, which would give to the United States supremacy in the air.

About 20 per cent. of the 2,400 should be of armored type, the estimates provide; airplanes capable of attacking infantry organizations while flying at low altitudes and encountering anti-aircraft fire. The remaining 20 per cent. should be of the heavy bombing type, like the Martins, to carry bombs, torpedoes, mines to strew around enemy fleets and poison gas in large quantities.

Limited Range of Flight Makes Airplane Carriers Essential

Of course, it is realized that airplanes are limited in their range—that it is impossible for land machines to venture forth with any degree of safety to a position more than 100 miles at sea, certainly in the greatest emergency not more than 200 miles. For this reason any such programme should contemplate the construction of a reasonable number of airplane carriers, not less than six, to accompany the fleet or to operate independently, providing landing fields afloat, from which the airplanes should start out to attack an enemy and return to as a base.

Great Britain already is constructing six airplane carriers, while the United States is lagging far behind in this regard. The carrier Langley is being constructed by the Navy, largely for experimental purposes. She is not as yet in commission, but is expected to be in the late autumn. She is a collier, converted for service as a carrier until a real carrier, properly sized and fitted, is authorized by Congress.

With such an air organization the airplane enthusiasts insist the United States could be reasonably sure of preventing any sort of attack, even from a fleet far greater than that maintained by the United States. If an enemy fleet were to come out against the United States the aerial forces would set out to sink it, through a combination of the dropping of bombs, the laying of mines, the spreading of poison gas and the launching of torpedoes.

The great difficulty with the present situation, so far as aircraft is concerned, seems to be a lack of interest among those who are responsible for the armament policy of the United States. Up to this time the airplane advocates have been bucking a solid opinion among the so-called old line officers of both the Army and the Navy, who have, so the fliers insist, failed to make a proper investigation of the possibilities of aircraft.